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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,954	06/08/2005	Gunnar Hultquist	1026-0002WOUS	5447
49698 7590 09/22/2008 MICHAUD-DUFFY GROUP LLP 306 INDUSTRIAL PARK ROAD SUITE 206 MIDDLETOWN, CT 06457			EXAMINER PALABRICA, RICARDO J	
			ART UNIT 3663	PAPER NUMBER
			MAIL DATE 09/22/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/537,954

**Applicant(s)**

HULTQUIST ET AL.

**Examiner**

Rick Palabrica

**Art Unit**

3663

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15, 17, 18, 24 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15, 17, 18, 24 and 25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's 8/21/08 RCE submission, which directly amended claims 15 and 25, and traversed the rejection of claims in the 4/21/08 Office action, has been entered.

Applicant's arguments have been fully considered but they are not persuasive.

### ***Response to Arguments***

2. Applicant traversed the rejection of claims 15 and 25 based on the applied art in the 4/21/08 Office action, on the grounds that: a) "the blocking of adsorption sites by carbon monoxide, as recited in claims 15 and 25, is not the formation of an oxide coating, as in Ferrari '524, because the adsorption of carbon monoxide ahead of hydrogen is not the formation of an oxide coating"; b) "Ferrari '894 discloses the decomposition of carbonyls into carbon monoxide to fill the unoccupied portions of the interior chambers of a fuel element, but no mention is made of using carbon monoxide to block sites capable of adsorbing hydrogen"; c) "an indication that the presence of

carbon monoxide is undesirable as in Adamson or King is opposite of the use of carbon monoxide in a fill gas to block adsorption sites."

The examiner disagrees.

As to argument a), the added limitation to the claims is as follows:

*"wherein the material of the cladding tube comprises sites capable of adsorbing hydrogen, the carbon monoxide of the initial fill gas being provided to block the sites."*

The claims are directed to a product and NOT to a process. The structural elements of the product in the above limitation are cladding tube material and the initial fill gas having carbon monoxide. The adsorption of hydrogen by the cladding tube and the blocking of the sites by the carbon monoxide of the fill gas are NOT structural limitations; instead they are process limitations and/or statement of intended or desired use.

Product claims and apparatus claims follow a similar analysis, as per MPEP 2112.01, section I, which states:

"PRODUCT AND APPARATUS CLAIMS — WHEN THE STRUCTURE RECITED IN THE REFERENCE IS SUBSTANTIALLY IDENTICAL TO THAT OF THE CLAIMS, CLAIMED PROPERTIES OR FUNCTIONS ARE PRESUMED TO BE INHERENT."

Thus, the above process limitation and/or statement of intended or desired use, do not serve to patently distinguish the claimed product over that of the reference, as long as the elements of the cited references are capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525,1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

As to the cladding tube having sites capable of adsorbing hydrogen, applicant's cladding tube is manufactured from a material of zirconium or a zirconium-based alloy. The cladding tube of Ferrari '524 is made from a zirconium alloy, such as Zircaloy (see col. 2, lines 39+). Since the material of the cladding tube in Ferrari '524 is the same as that recited in the claims, the reference must inherently function in the same manner to produce the same results as applicant's situation. As to limitations which are considered to be inherent in a reference, note the case law of In re Ludtke, 169 USPQ 563, In re Swinehart, 169 USPQ 226, In re Fitzgerald, 205 USPQ 594, In re Best et al., 195 USPQ 430, and In re Brown, 173 USPQ 685, 688.

Similarly, Ferrari '524 uses carbon monoxide as part of the fill gas (see col. 2, lines 32+). Since the fill gas in Ferrari '524 is the same as that recited in the claims, i.e., they both contain carbon monoxide, the reference is capable of being used in the same manner and for the intended or desired use as the claimed invention. It is immaterial that the carbon monoxide in Ferrari '524 also produces an oxide coating, for as long as it also has the capability to block hydrogen. Note that it is sufficient to show that said capability to block hydrogen exists, which is the case for the cited reference.

As to argument b), Ferrari '894 has not been applied for the teaching of using carbon monoxide to block sites capable of adsorbing hydrogen because Ferrari '524 already teaches that capability, as discussed for argument a) above. Thus, applicant's argument is unpersuasive because the applicant has not shown that the references do not teach what the examiner has stated they teach, nor, has the applicant shown that the examiner's reasoning for and manner of combining the teachings of references is improper or invalid.

As to argument c), applicant is again misrepresenting the teachings that the examiner applied for either Adamson or King.

As stated in section 6 of the 4/21/08 Office action, the combination of Ferrari '524 and Ferrari '894 teaches the advantages having carbon monoxide in the fill gas, whereas Adamson or King teaches the disadvantages of having carbon monoxide in the fill gas. These references demonstrate that adding carbon monoxide in the fill gas has BOTH advantages AND disadvantages.

The primary and secondary references teach that it is necessary to determine an optimum proportion of carbon monoxide in the fill gas such that the advantages are maximized (as per the Ferrari '524 - Ferrari '894 combination) and the disadvantages are minimized (as per Adamson or King).

Clearly, applicant's argument against Adamson and King is misplaced because the applicant has not shown that the references do not teach what the examiner has stated they teach, nor, has applicant shown that the examiner's reasoning for and manner of combining the teachings of references is improper or invalid.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15, 17, 18, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferrari (U.S. 4,609,524) in view of Ferrari (U.S. 3,677,894) in combination with either Adamson et al. (U.S. 5,437,747) or King (U.S. 5,329,566).

The reasons are the same as those stated in section 7 of the 4/21/08 Office action, as further clarified in section 2 above, which reasons are herein incorporated.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

September 16, 2008

/Rick Palabrica/  
Primary Examiner, Art Unit 3663